

Appl. No. 10/681,643
Reply to Final Office Action of September 7, 2006

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REMARKS

Claims 1-23 and 39-52 are pending in the present application. Claims 1, 10, 39 and 50 are amended. Reconsideration of this application is respectfully requested.

First and foremost, Applicants thank Examiner Garcia and supervising Examiner Fourson for the opportunity for their undersigned representative Mark J. Marcelli, to discuss aspects of the claims in a telephonic interview that took place on November 14, 2006.

Allowed Claims 14-23

Applicants acknowledge with appreciation the Examiner's indication that claims 14-23 are allowed.

Allowable subject matter

Applicants also are grateful to the Examiner for acknowledging the allowable subject matter recited in Claims 2, 5, 6, 10, 11, 13, 40, 43-45, 49 and 50. Claims 10 and 50 have been rewritten in independent form and are therefore allowable. The Action objects to Claims 2, 5, 6, 11, 13, 40, 43-45 and 49 as being dependent upon rejected base Claims 1 and 39. Claims 2, 5, 6, 11, 13, 40, 43-45 and 49 are allowable in view of the amendments to Claims 1 and 39 and the arguments in connection therewith.

Amendments of Claims 1 and 39

Claim 1 has been amended to recite "... forming a capacitor dielectric layer on sidewalls of the opening in the dielectric layer and directly on the exposed portion of the substrate" (Emphasis added).

Claim 39 also has been amended to recite "... conformally forming a capacitor dielectric layer on sidewalls of the opening in the dielectric layer and directly on the exposed portion of the substrate" (Emphasis added). Support for the amendments to Claims 1 and 39 can be found at, for example, FIG. 2F.

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Claim rejections under 35 U.S.C. §102(b)

The Action rejects Claims 1, 3, 4, 7, 9, 12, 39, 41, 42, 46, 48, 51 and 52 under 35 U.S.C. §102(b), contending that the claims are anticipated by U.S. Patent Publication No. 2001/0021122 to Kurth et al. ("Kurth").

Independent Claim 1 has been amended to recite "... forming a capacitor dielectric layer on sidewalls of the opening in the dielectric layer and directly on the exposed portion of the substrate" (Emphasis added).

Kurth is directed to a structure and method for embedding read-only memory (ROM) in dynamic random access memory (DRAM). In order to form the structure, Kurth (in FIG. 15) provides a short circuit between the DRAM capacitor lower electrode 152 and word line (i.e., poly layer 132 and silicide layer 134) by way of conductive plug 146 such that a read-only "1" ROM cell is formed, Paragraphs [0051] and [0052]. In Kurth, capacitor dielectric layer 154 is formed on lower electrode 152 which, in turn, is formed on conductive plug 146 which is formed on exposed substrate 120. In other words, conductive plug 146 is formed between exposed substrate 120 and lower electrode 152 in order to short lower electrode 152 and poly layer 132 and silicide layer 134. FIG. 15 clearly shows that capacitor dielectric layer 154 is **not directly on** exposed substrate 120. Further, nothing in Kurth's description or drawings shows that capacitor dielectric layer 154 is directly on exposed substrate 120. In addition, one of ordinary skill in the art would not have been motivated by Kurth to modify its structure such that capacitor dielectric layer 154 is directly on exposed substrate 120 since the modification would destroy Kurth's goal in forming an embedded ROM in DRAM. Accordingly, Claim 1 is distinguished from Kurth and therefore the rejection of Claim 1 under 35 U.S.C. §102(b) should be withdrawn. Claim 1 is therefore allowable for at least the reasons set forth above.

Claims 3, 4, 7, 9 and 12 depend from Claim 1 and are also distinguished from Kurth. Therefore, Claims 3, 4, 7, 9 and 12 are allowable for at least the reasons set forth above in connection with Claim 1.

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Further, Claims 2, 5, 6, 11 and 13 depend from Claim 1. Claims 2, 5, 6, 11 and 13 are distinguished from Kurth and are allowable for at least the reasons set forth above in connection with Claim 1.

Claim 39 has been amended to recite "... conformally forming a capacitor dielectric layer on sidewalls of the opening in the dielectric layer and directly on the exposed portion of the substrate" (Emphasis added). As argued above in connection with Claim 1, Claim 39 is distinguished from Kurth and the rejection of claim 39 under 35 U.S.C. §102(b) as being anticipated by Kurth should be withdrawn. Claim 39 is therefore allowable for at least the reasons in connection therewith.

Claims 41, 42, 46, 48, 51 and 52 depend from Claim 39 and are also distinguished from Kurth. Therefore, Claims 41, 42, 46, 48, 51 and 52 are allowable for at least the reasons set forth above in connection with Claim 39.

Further, Claims 40, 43-45 and 49 depend from Claim 39. Claims 40, 43-45 and 49 also are distinguished from Kurth and are, therefore, allowable for at least the reasons set forth above in connection with Claim 39.

Accordingly, reconsideration and withdrawal of the 102(b) rejections to Claims 1, 3, 4, 7, 9, 12, 39, 41, 42, 46, 48, 51 and 52 and the objections to Claims 2, 5, 6, 11, 13, 40, 43-45 and 49 are respectfully requested.

Claim rejections under 35 U.S.C. §103(a)

The Action also rejects Claims 8 and 47 under 35 U.S.C. §103(a), contending that the claims are unpatentable over Kurth since it is obvious to one of ordinary skill in the art to determine a suitable distance to achieve the gate and opening formation. The Examiner's allegation, however, fails to cure the deficiency of Kurth set forth above in connection with Claims 1 and 39. Therefore, Claims 8 and 47, which depend from Claims 1 and 39, respectively, are not obvious over Kurth and are allowable. Reconsideration and withdrawal of the 103(a) rejections to Claims 8 and 47 are respectfully requested.

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Conclusion

In view of the foregoing amendments and remarks, Applicants submit that this application is in condition for allowance. Early notification to that effect is respectfully requested.

Applicants respectfully request entry of the claim amendments after final because the amendments to claims 1 and 39 render the application in allowable form.

The Assistant Commissioner for Patents is hereby authorized to charge any additional fees or credit any excess payment that may be associated with this communication to deposit account 04-1679.

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